

Agenda Report

March 14, 2016

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (03/08/2016)

FROM: Departments of Finance, Public Works, and Water and Power

SUBJECT: RECOMMENDED FINAL PROJECTS FOR COMPLETION OF THE UNDERGROUND UTILITY PROGRAM

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the proposed action is not a project subject to the California Environmental Quality Act ("CEQA"), as defined in Section 21065 of CEQA and Section 15378 of the State CEQA Guidelines and, as such, no environmental document pursuant to CEQA is required for the project;
2. Discontinue the Underground Utility Program ("UUP") as described in Pasadena Municipal Code ("PMC") Chapter 13.14 upon completion of the two underground utility districts that are currently under construction, Hill Avenue and Alpine Street ("Recommended Projects");
3. Direct staff to suspend collection of the light and power surtax ordinance described in PMC Chapter 4.24 and the general fee schedule ("Surtax"); and,
4. Direct staff to return with recommendations with respect to disposition of any remaining Surtax funds and permanent repeal of the Surtax within six months.

MUNICIPAL SERVICES COMMITTEE RECOMENDATION:

On March 8, 2016, staff presented a recommendation to discontinue the UUP upon completion of the currently designated underground utility districts that include Hill Avenue, Alpine Street, Mountain Street, and North Raymond Avenue as described in Alternative 3 herein.

The Committee unanimously moved to recommend that the City Council adopt Alternative 1, including completion of Hill and Alpine projects only. Staff agrees with this recommendation. The Recommendations and description of Alternative 1 set forth in this agenda report have been updated to reflect the Committee's motion.

EXECUTIVE SUMMARY:

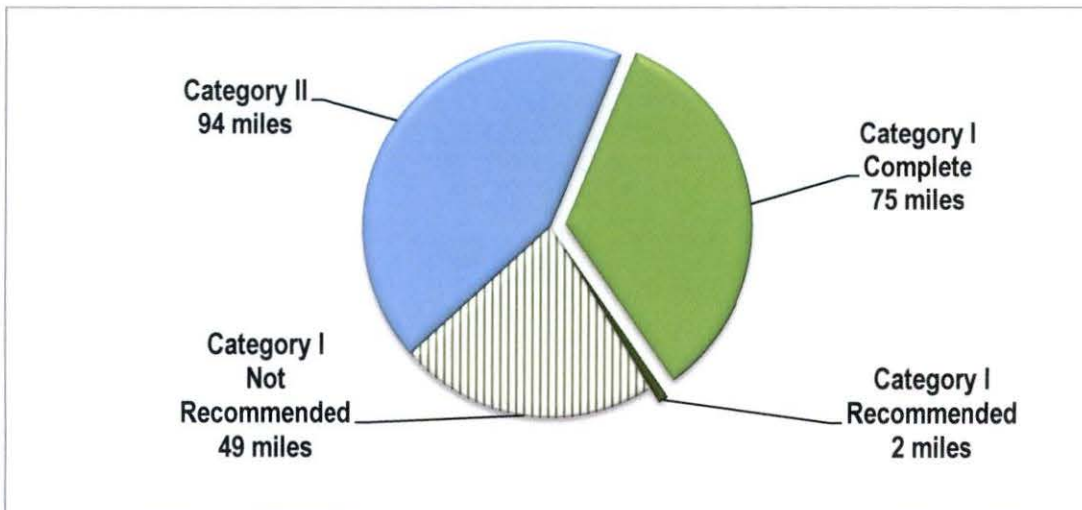
On August 25, 2015, the Departments of Finance, Public Works, and Pasadena Water and Power (“PWP”) presented thirteen recommendations to enhance the UUP as prepared by the professional management consulting firm Management Partners to the Municipal Services Committee (“MSC”). The MSC supported the staff recommendation to approve Management Partners’ thirteen recommendations, and requested that the departments return with a specific proposal to implement the following two recommendations, which are the subject of this report:

12. Review the goal of the UUP to determine the extent of undergrounding desired; and,
13. Determine if and when the surtax should be discontinued.

PWP’s electrical distribution system consists of approximately 616 miles of overhead circuits and 1,042 miles of underground circuits, resulting in a system that is approximately 37% overhead and 63% underground. The UUP was established in 1968 to facilitate the conversion of existing overhead circuits to underground infrastructure. As provided in PMC Chapter 13.14, the “underground facilities ordinance,” the City Council may hold public hearings to “ascertain whether the public necessity, health, safety or welfare requires the removal of poles, overhead wires and associated overhead structures within designated areas of the city and the underground installation of wires and facilities for supplying electric, communication or similar or associated service” and subsequently establish underground utility districts by resolution.

As shown in Figure 1, 220 miles of overhead utility lines have been identified for conversion under the UUP, including 126 miles of Category I (arterial and collector roads) and 94 miles of Category II (residential, rear property easements, and alleys). Category I lines have been the priority and approximately 75 miles have been completed under the UUP thus far.

Figure 1
Utility Lines Identified for Undergrounding Under UUP



Staff estimates an additional \$600-700 million would be needed to complete all the remaining 51 miles of Category I streets assuming average future costs of approximately \$12-15 million per mile. Completing these Category I streets could be completed in approximately 25 years at an accelerated pace of two miles per year, but it would take over 100 years to fund these projects at the current rate of Surtax collection, which is \$5-6 million per year.

The UUP was expected to result in increased electric service reliability, lower operating costs, and beautification of the City. While the aesthetic benefit of completed UUP projects is apparent, experience has shown that the operational benefits are not as clear. Power outages tend to be less frequent for underground circuits, but they are harder to locate, more time consuming to resolve, costly to repair, and often affect more customers when they occur. Ongoing planned maintenance and system improvements are costlier for underground circuits, particularly as aging vaults and other underground infrastructure and equipment need to be replaced.

Considering the extent of undergrounding work already completed; the increasing costs, timeline, and resource commitment associated with undergrounding electrical circuits; and, the unclear reliability benefits that may be obtained from full completion of the UUP, staff is recommending that the UUP be deemed complete and discontinued upon completion of the Recommended Projects that include only the first two of the four currently established underground districts (Hill Avenue, Alpine Street, Mountain Street, and North Raymond Avenue). Work on Hill Avenue is well underway and civil construction has commenced on Alpine Street. The initial design work performed on Mountain Street indicate that this project will have a very high cost per mile and per property served due to the relatively high number of underground circuits that cross Mountain. Thus far, a minimal amount of work has been performed on the North Raymond Avenue project.

The Underground Utilities Fund (Fund 206) has sufficient funds to complete the Recommended Projects and thus staff recommends that collection of the Surtax be suspended as soon as practical. It is currently estimated that construction of the Recommended Projects would be completed by late 2018 at an estimated combined cost of about \$16 million (including expenses already incurred).

Future City Council action and/or voter approval would be necessary to implement a permanent repeal of the Surtax, repurposing the use of Surtax revenues, or to authorize the final disposition of any residual balance that may remain in the Underground Utilities Fund upon discontinuance of the UUP. Staff will evaluate potential options (which could include use for utility-driven undergrounding projects, repurposing funds for other unfunded infrastructure improvements, or refunding to utility customers, etc.) and recommend appropriate actions to the City Council within six months.

BACKGROUND:

Construction Experience/Challenges

Experience has shown that construction of undergrounding projects has tended to significantly exceed both schedule and budget expectations. Construction delays can result when unexpected structures or conditions are found underground. Hand digging may be required around trees or for a variety of other reasons. Such situations often require redesign work and costly change orders.

Completing the UUP projects requires the cooperation of other public utilities using the poles as well as the retail customers served by those utilities. Although California Public Utility Commission tariff rules require utility companies to fund the undergrounding of aerial lines on Category I streets, cable and telephone companies face a growing number of competitive threats and are increasingly reluctant to fully participate in these complex and costly undergrounding projects. Likewise, PWP is facing significant challenges meeting environmental goals, distributing resources, and ensuring competitive rates for its customers.

Once all utilities have completed the installation of lines in the street, each customer served must then underground their service connection on private property before the poles can be removed and the project completed. This requires property owner action, which often takes longer than expected and can be costly for the customer to complete. Pasadena has historically provided economic incentives to accelerate this process and has recently initiated a new process whereby customers can utilize a contractor retained by the City at no cost. The benefits and merits of this new approach, which is being implemented on the Hill Avenue project, have yet to be fully realized or evaluated; however, initial results indicate there are significant time savings, reduced construction impacts on the affected streets, and substantially higher cost impacts on the Underground Utilities Fund as compared to the historic approach of providing a cash incentive to customers to help defray the cost hiring a private contractor to interconnect their property to the new underground infrastructure.

Planning, implementing, and effectively managing the UUP projects requires a substantial commitment of staff and management resources. Throughout the process, staff from all departments and other participating utilities must balance multiple programs and projects with competing priorities. At the UUP program outset, projects were primarily in commercial areas and were not as challenging to complete; however, with the increased complexity and additional challenges associated with undergrounding residential circuits, the UUP has become a significant distraction from providing cost-effective core services to the community.

Cost of Undergrounding

The cost to complete the UUP projects has been increasing significantly due to increased costs of labor and materials, as well as the recent process change to using a single contractor to connect each customer on the Hill project. Recent bids incorporating prevailing wage requirements have shown costs of some activities doubling versus a few years ago.

Table I summarizes the estimated construction costs of for each of the established underground districts.

Table I
UUP Construction Cost Summary

District	Length (miles)	No. of Properties	Est. Cost (\$M)	Cost per Mile (\$M)	Cost per Property (\$)
Hill Avenue	1.42	207	10.7	7.5	51,700
Alpine Street	0.6	54	5.15	8.6	95,400
Mountain St.	0.6	58	9.0	15.0	155,200
N. Raymond Ave.	2.0	247	24.0	12.0	97,200
Total	4.62	566	48.85	10.6	\$86,300

Staff estimates that completion of the Recommended Projects will cost approximately \$16 million, including an estimated \$10 million of expenditures incurred to date on these two projects. Staff also estimates that all 51 miles of Category I projects can be completed in about 25 years at an accelerated rate of about two miles per year. Assuming costs of \$12-15 million per mile, the total cost would be approximately \$600-700 million.

The 94 miles of Category II streets would likely cost more than \$15 million per mile to build and have a slower completion rate, resulting in about \$1.4 billion in additional expenditures and another 50-100 years of construction following completion of the Category I streets.

In addition to relatively high initial capital costs to install underground infrastructure, annual operating and maintenance (“O&M”) costs are more than three times higher per mile of underground circuit than overhead circuits. PWP’s annual costs for routine inspections, maintenance, and repairs are approximately:

- \$400 per year per mile for overhead circuits; and,
- \$1,300 per year per mile for underground circuits.

Vault replacement, which is extremely difficult and costly, is one of the significant drivers for the relatively high cost of maintaining the underground system.

UUP Funding and Fund Balance

The UUP is funded by the Surtax, which is applied to the electrical charges on PWP customer bills as described in PMC Chapter 4.24. The surtax rates are set forth in the General Fee Schedule and vary depending upon the total electrical charges as follows:

- First \$1,000 of monthly bill4.34%
- Next \$4,000 of monthly bill3.70%
- Next \$20,000 of monthly bill2.47%
- Over \$25,000 of monthly bill1.21%

Application of Surtax results in collection of approximately \$5-6 million annually, and costs the typical 500kWh per month residential customer approximately \$44 per year. The rate of collection is not expected to change significantly for the foreseeable future.

Surtax revenues are credited to the Underground Utilities Surtax Fund, which may be used for the following purposes pursuant to PMC 4.24.050:

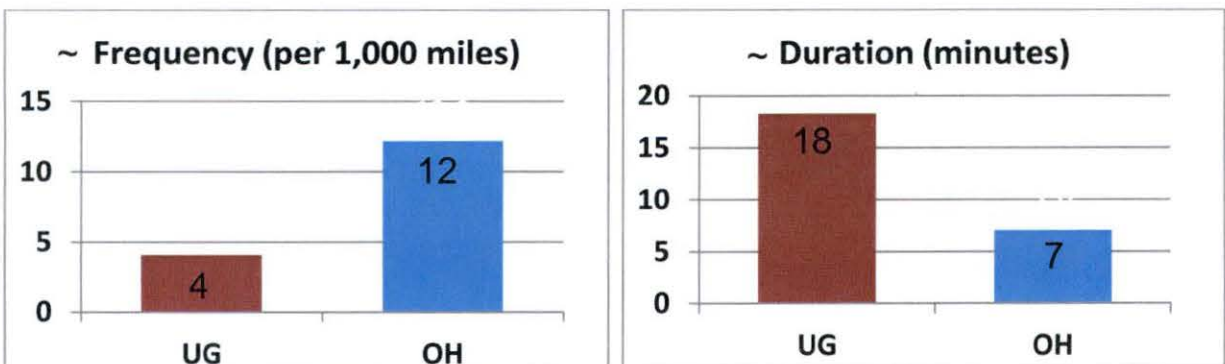
Additions to, and construction and extension of underground utility lines; conversion of overhead to underground utilities; street lighting improvements in connection with such conversions; and replacement and repair of underground utility lines in connection with such conversions within the City.

As of the close of FY2015 the Underground Utilities Surtax Fund cash and assets totaled approximately \$38 million. After completion of the Recommended Projects, it is estimated that the Underground Utilities Surtax Fund will have a balance of approximately \$30-32 million depending upon the actual costs to complete these projects and actual revenues collected prior to suspension of the Surtax.

Reliability of Underground Systems

Overhead power systems are subject to more frequent outages caused by external factors such as trees/branches, metallic balloons, animal contact, and even automobile collisions with above-ground infrastructure. With far fewer opportunities for such external causes, underground circuits have fewer outages; however, locating and repairing underground electrical circuits and equipment takes more time and resources, thus the power outages caused by underground systems last longer and cost more to repair. Figure 2 compares the relative frequency and duration of outages caused by underground ("UG") and overhead ("OH") power distribution systems.

Figure 2
Average Annual Frequency and Duration of Power Outages



Alternatives

Staff has identified several alternative courses of action with respect to completion of the UUP and termination of the Surtax collection, as summarized in Table II:

**Table II
 Alternative Actions for UUP Completion and Surtax Termination**

Alternative	Action	Implications
1 (recommended)	Discontinue Surtax collection and terminate UUP upon completion of Hill Avenue and Alpine Street	<ul style="list-style-type: none"> • Majority of current fund balance available for refund or repurposing • Would reduce expense and staff resources necessary for transfer of UUP to PWP • Work could be completed by late 2018
2	Discontinue Surtax collection and terminate UUP upon completion of Hill Avenue, Alpine Street, and Mountain Street	<ul style="list-style-type: none"> • Three of four remaining established underground districts would be completed • A portion of the Underground Utilities Fund balance may remain for refund or repurposing at a later date • Work could be completed by late 2020
3	Terminate UUP upon completion of all four established underground districts (Hill Ave, Alpine St, Mountain St, and N. Raymond Ave)	<ul style="list-style-type: none"> • Collection of Surtax could be terminated within two years when sufficient funds are available for all projects • All existing underground districts would be completed by late 2023
4	Continue UUP through completion of Category I streets (no City Council action required at this time)	<ul style="list-style-type: none"> • Additional 51 miles of Category I streets • Collection of \$600-700 M Surtax revenues would continue for approximately 100 years • Work could be completed in about 25 years
5	Continue UUP through completion of Category II streets (no City Council action required)	<ul style="list-style-type: none"> • Additional 51 miles of Category I and 94 miles of Category II streets • Collection of ~\$2 billion Surtax revenues would continue for over 300 years • Work could be completed in 75-125 years

Utility-Funded Undergrounding

Regardless of whether the UUP continues or when it terminates, PWP will continue to install new lines underground, or convert existing overhead lines to underground systems, when undergrounding is warranted to address electric reliability issues and system expansion needs. Utility-driven undergrounding projects are included in the Light and Power Capital Improvement Plan ("CIP") budget and funded from electric rate revenues. Unlike the UUP projects, the utility-driven undergrounding projects address locations where electrical system performance would clearly benefit from undergrounding regardless of street classification. It should be noted that utility-driven undergrounding projects typically cover very short distances and do not result in removal of poles and wires associated with telephone and cable services.

Also independent of the UUP, private property owners may continue with the available option to place lines underground as part of an upgrade or home improvement project. The project would be paid for by the property owner and require the proper permitting, connection and inspection by PWP's utility services planning division.

COUNCIL POLICY CONSIDERATION:

The recommended discontinuance of Surtax collection upon completion of the Recommended Projects is consistent with the City Council's goals to: (i) maintain fiscal responsibility and stability; and (ii) improve, maintain and enhance public facilities and infrastructure.

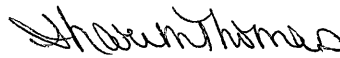
ENVIRONMENTAL ANALYSIS:

The proposed discontinuance of the UUP is an administrative action that would not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. Therefore, the proposed action is not a "project" subject to CEQA, as defined in Section 21065 of CEQA and Section 15378 of the State CEQA Guidelines. Since the action is not a project subject to CEQA, no environmental document is required.

FISCAL IMPACT:

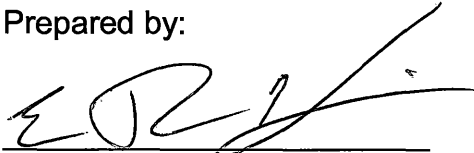
These recommendations will have no direct impact on the General Fund or Light and Power Fund. Staff will provide a recommendation at a later date when it is determined that Underground Utilities Fund is sufficient to complete the Recommended Projects and collection of Surtax can be suspended or eliminated. Future CIP budgets will be amended to reflect (i) cancellation of UUP projects that are not recommended, and (ii) revised budget estimates for the Recommended Projects as they may evolve over time.

Respectfully submitted,



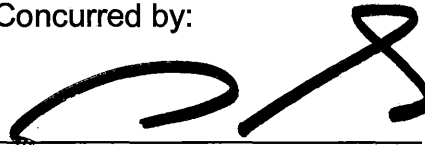
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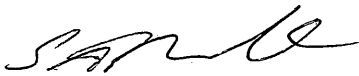
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